Name:

GCSE Maths 2022
AQA Foundation Paper 2
Set A
Calculator

Corbettmaths

Equipment

1. A black ink ball-point pen.
2. A pencil.
3. An eraser.
4. A ruler.
5. A pair of compasses.
6. A protractor.

Guidance

1. Read each question carefully.
2. Check your answers seem right.
3. Always show your workings

Information

1. This paper has been created based on topics in the Advance Information.
2. Also see Corbettmaths for the checklist for the entire GCSE as these topics may still be useful for Paper 2
3. There is one question per topic - this paper is designed to give an opportunity to practice each topic rather than replicate the actual paper.
4. The marks for questions are shown in brackets

GCSE 2022 Resources

© CORBETTMATHS 2022

1. Put brackets into the calculation below to make it true.

$$4 + 3 \times 7 - 1 = 42$$

(1)

---

2. Write these numbers in order of size.
Start with the smallest number.

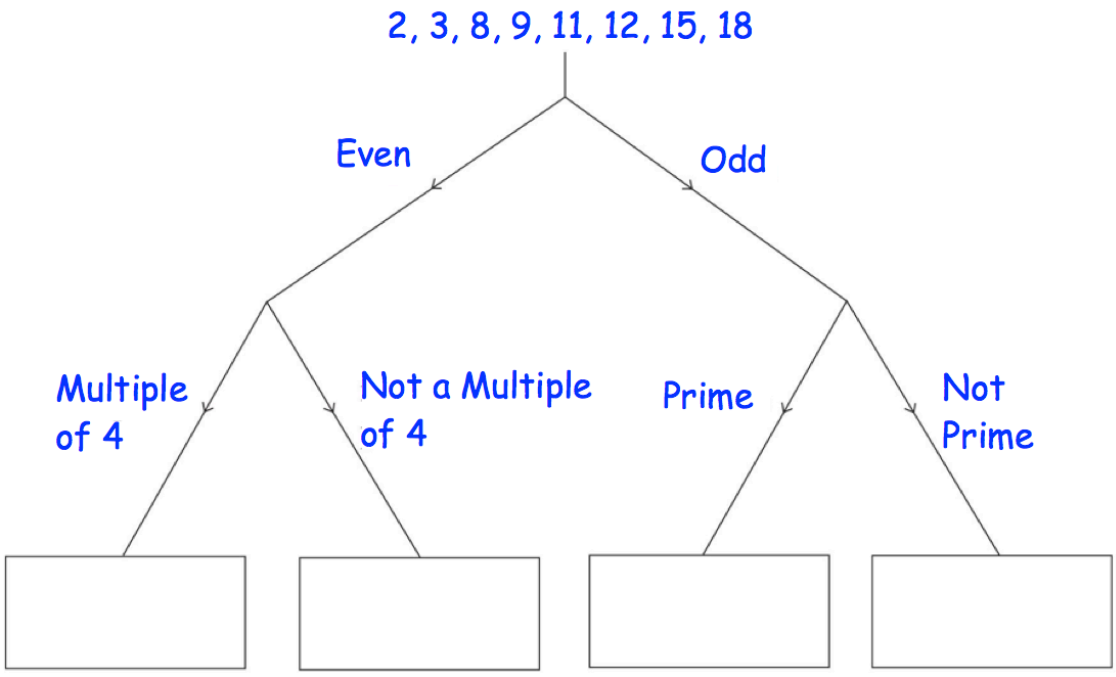
4.2 0.42 0.024 0.93 0.039

.....

(1)

---

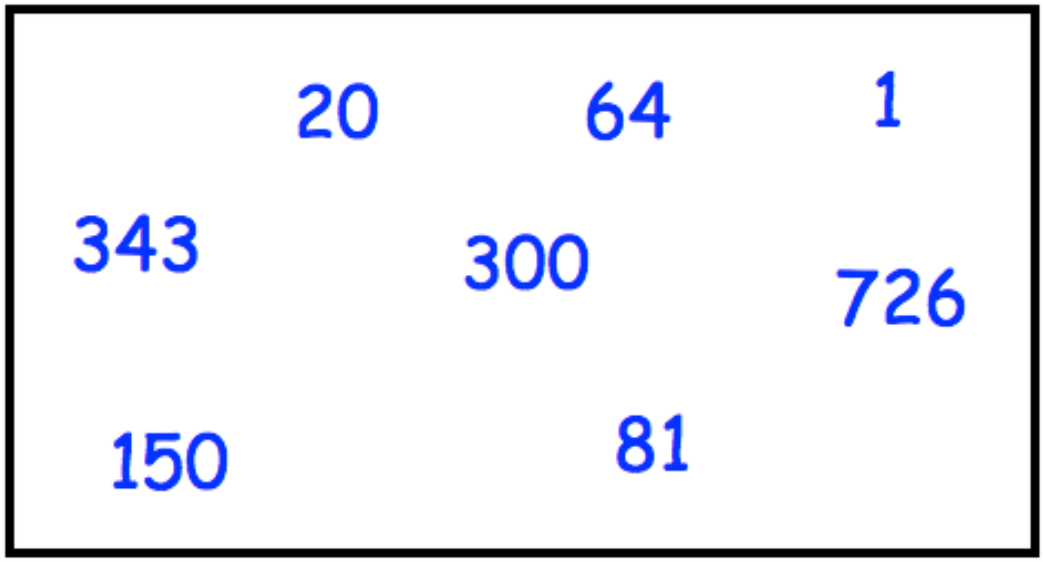
3. Sort **all** the numbers into the correct boxes.



(3)

© CORBETTMATHS 2022

4.



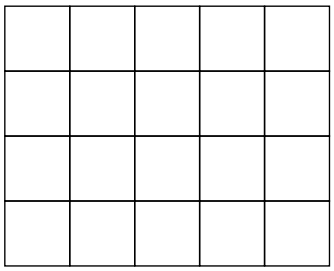
Circle all the cube numbers.

(2)

---

5. Jamie wants to shade $\frac{1}{3}$ of the grid.

Each square he decides to shade, he must shade in fully.



Can he successfully shade in $\frac{1}{3}$ of the grid?

Explain your answer.

……

……

(2)

© CORBETTMATHS 2022

6. Write these numbers in order of size.
Start with the smallest number.

$0.13 \quad \frac{3}{20} \quad 12\% \quad \frac{1}{10} \quad 0.09$

.....

(2)

---

7. Write $\frac{21}{5}$ as a mixed number.

.....

(1)

© CORBETTMATHS 2022

8. An adult ticket for a museum is £16.00
A child ticket costs 70% of the price of an adult ticket.
Mrs Jenkins and her three children go to the museum.

Mrs Jenkins has a voucher that reduces the total entry cost by 10%

Mrs Jenkins pays with three £20 notes.

Work out how much change Mrs Jenkins will receive.

£.....

(4)

---

9. The mass of a block of ice decreases from 80kg to 64kg.

Calculate the percentage decrease.

.....%

(2)

© CORBETTMATHS 2022

10. When a tennis ball is dropped, it bounces and then rises.
The ball rises to 80% of the height from which it is dropped.
The ball is dropped from a height of 4 metres.

(a) Calculate the height of the rise after the first bounce.

……m
(1)

(b) Calculate the height of the rise after the second bounce.

……m
(1)

The ball carries on bouncing, each time rising to 80% of the last rise.

(c) For how many bounces does the ball rise to a height greater than 2m?

……
(2)

---

11. The number of people who voted for the Green Party in an election was 1500.
The number of people who voted for the Blue Party was 9000.

Write the ratio of Green Party voters to Blue Party voters in the form 1:n

.....
(2)

© CORBETTMATHS 2022

12. Here are four different digits.

8 1 5 6

(i) Put one digit in each box to make the **smallest** total.
You may only use each digit once.

(1)

(ii) Write down the total

.....

(1)

---

13. James bought a motor scooter on hire purchase.
He paid a deposit of £275 and 18 monthly payments of £36.

At the end of the payments, he sold the motor scooter for £450.

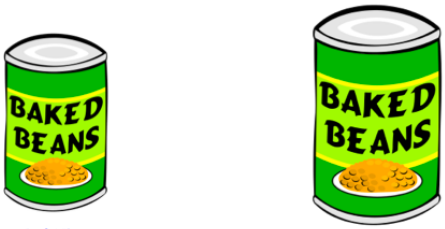
How much did it cost him in total?

£.....

(3)

© CORBETTMATHS 2022

14. A supermarket sells Baked Beans in two different size cans.



Which size can is the best value for money?
You must show all your working.

(4)

---

15. Oscar is making fish pie.
Here is a list of ingredients for 5 people.

serves 5
500g cod
400g haddock
600ml milk
120g butter
40g flour
1kg potatoes

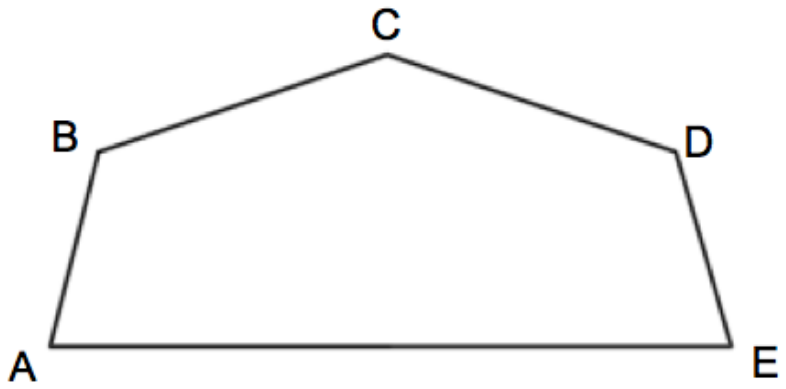
Oscar wants to make enough fish pie for 6 people.

How much milk should Oscar use?

.....ml
(3)

© CORBETTMATHS 2022

16. Shown is a shape ABCDE.



(a) What is the name of shape ABCDE?

.....

(1)

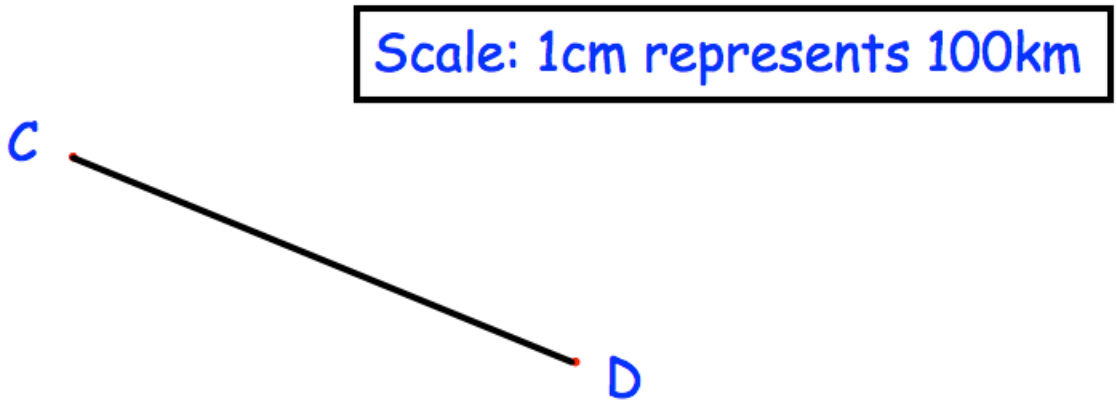
(b) Measure the length of line AE.

.....cm

(1)

© CORBETTMATHS 2022

17. The diagram shows a scale drawing.



(a) Use the diagram to calculate the actual distance from C to D.

.....km

(2)

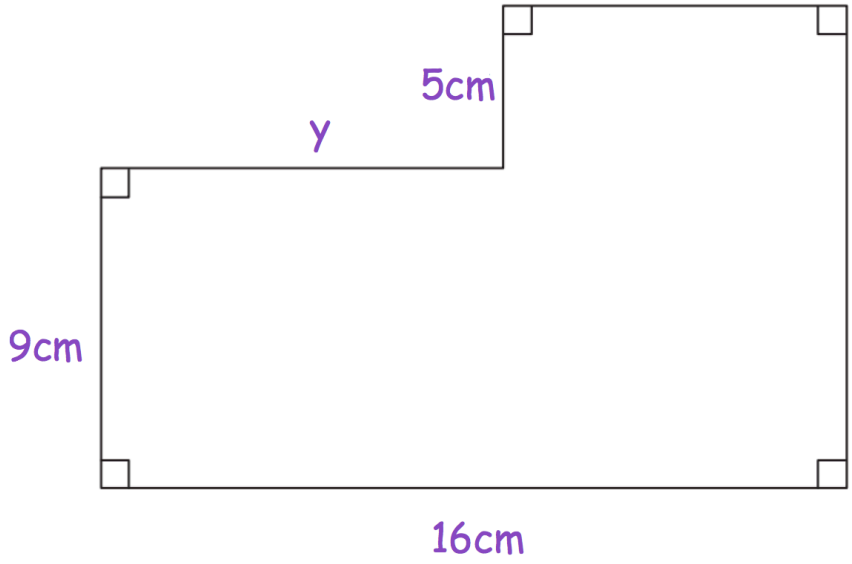
E is 300km due south of C.

(c) Show E on the diagram.

(1)

© CORBETTMATHS 2022

18.



The total area is 176cm²

Find the value of y

……..cm

(4)

© CORBETTMATHS 2022

19. The timetable shows the times of trains from Southville to Milton.

Southville	0630	0650	0720	0745
Leek	0703	0715	0751	0810
Milton	0824	0835	0920	0940

(a) Georgie arrives at the station at Southville at 0658 and gets the next train to Leek.

What time does this train leave Southville?

.....

(1)

(b) The 0745 train from Southvile arrives in Milton 11 minutes early.

What time does this train arrive in Milton?

.....

(1)

(c) Which train completes the journey from Southville to Milton in the shortest time?

.....

(2)

---

20. Ella finishes school at 3pm.
The time on her watch is 14:13

How long is it until Ella finishes school?

.....

(1)

© CORBETTMATHS 2022

21. A 2p coin has a radius of 1.3cm

Caitlyn makes a straight line of 2p coins worth £6

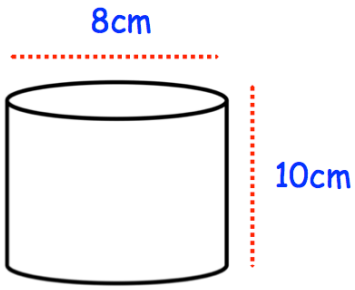
How long is the line?
Give your answer in metres

.....

(3)

---

22. Below is a cylinder with diameter 8cm and 10cm.



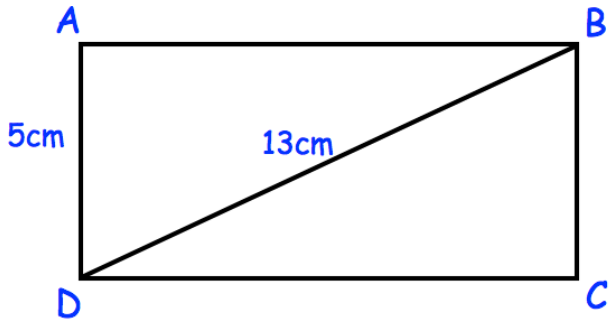
Find the volume of the cylinder.

..... cm^3

(3)

© CORBETTMATHS 2022

23. Below is rectangle, ABCD



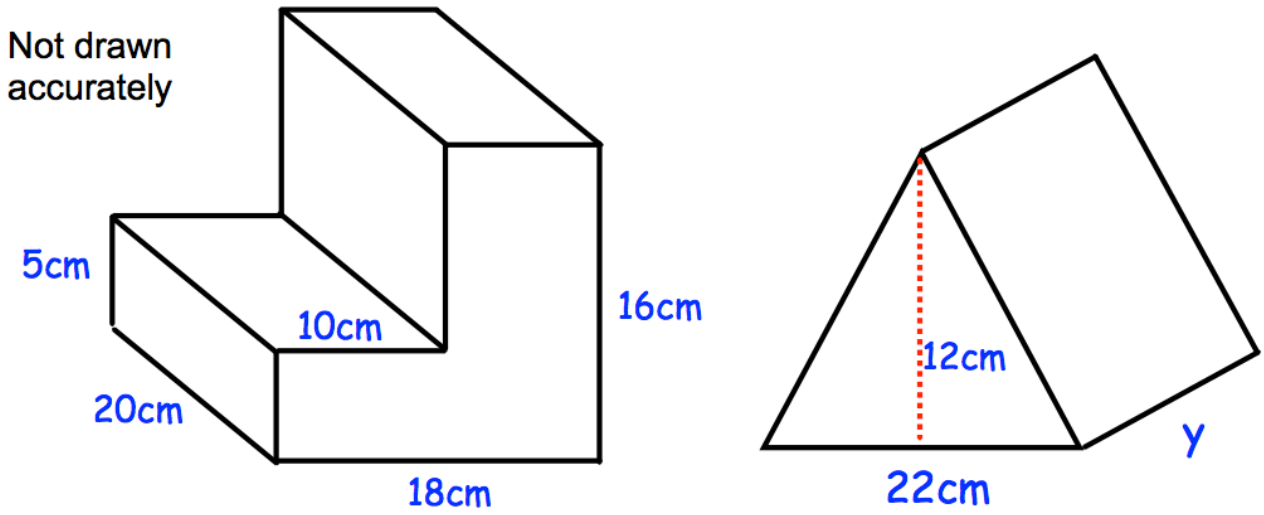
AD = 5cm
BD = 13cm

Calculate the perimeter of rectangle ABCD

.....cm
(3)

© CORBETTMATHS 2022

24. Shown below is an L-shaped prism and a triangular prism.



Both prisms have the same volume.

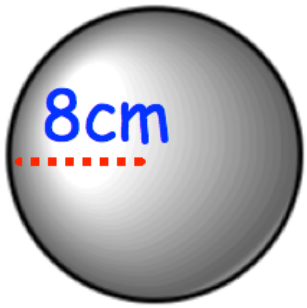
Calculate y.

.....cm

(6)

© CORBETTMATHS 2022

25. Shown is a sphere with radius 8cm.



Calculate the volume of the sphere.

.....cm³

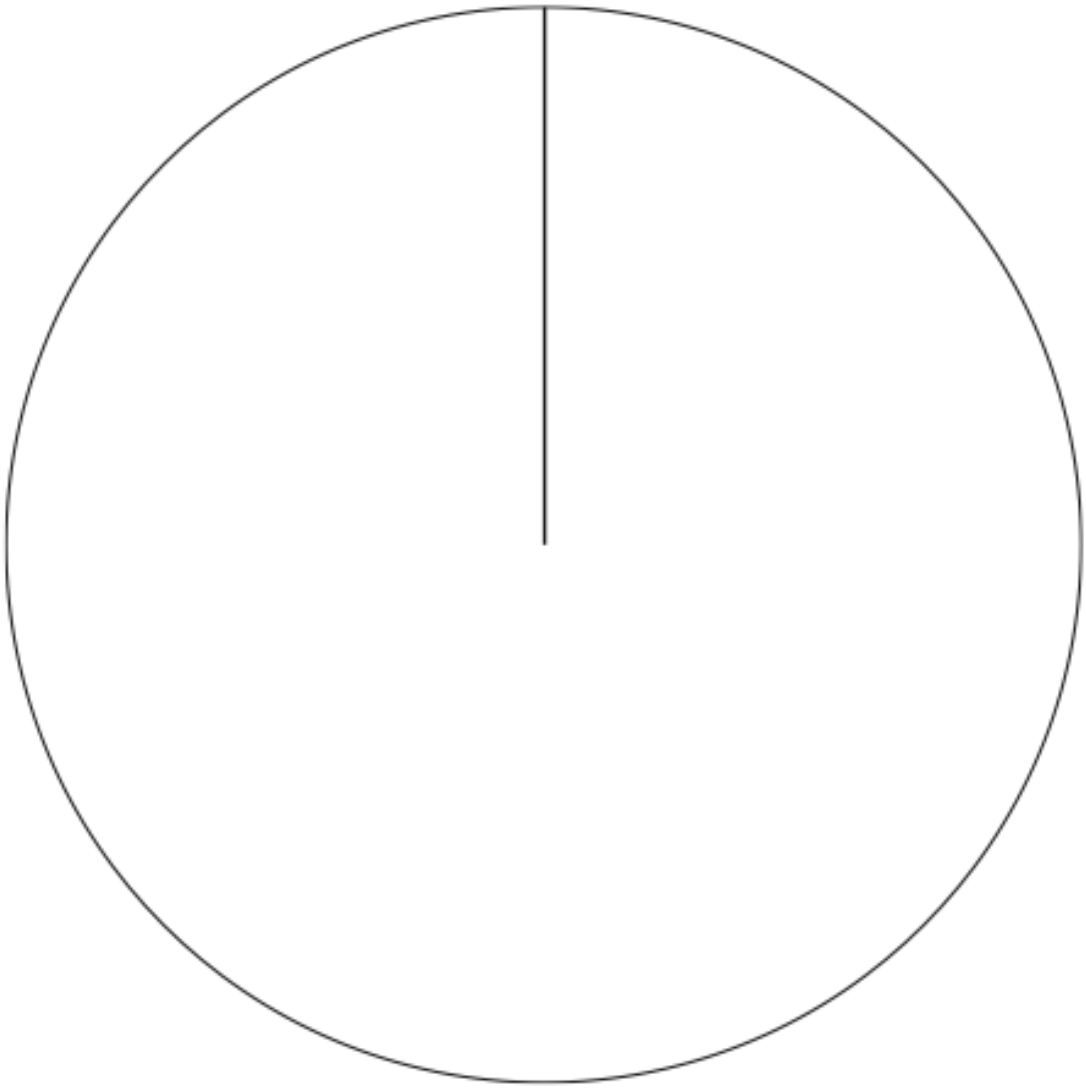
(3)

© CORBETTMATHS 2022

26. The table gives information about the rugby teams a group of people support.

Rugby Team	Frequency
England	20
France	5
Ireland	15
Scotland	25
Wales	25

Draw an accurate pie chart to show this information.

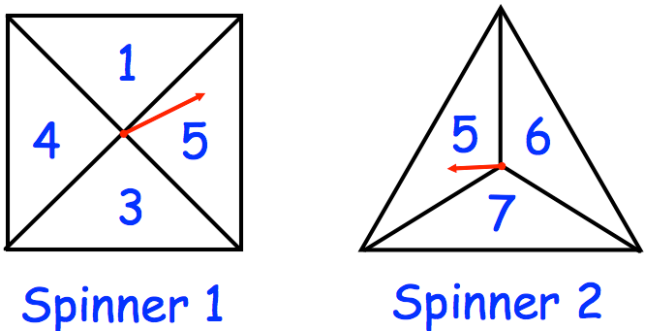


(4)

© CORBETTMATHS 2022

27. Two fair spinners are spun.

Spinner 1 has four equal sections labelled 1, 3, 4 and 5.
Spinner 2 has three equal sections labelled 5, 6 and 7.



Each spinner is spun once.
The numbers are added together to get a score.

(a) Complete the table to show all possible scores.

Spinner 2 \ Spinner 1	1	3	4	5
5				
6				
7				

(2)

(b) Find the probability of scoring a 8

.....

(1)

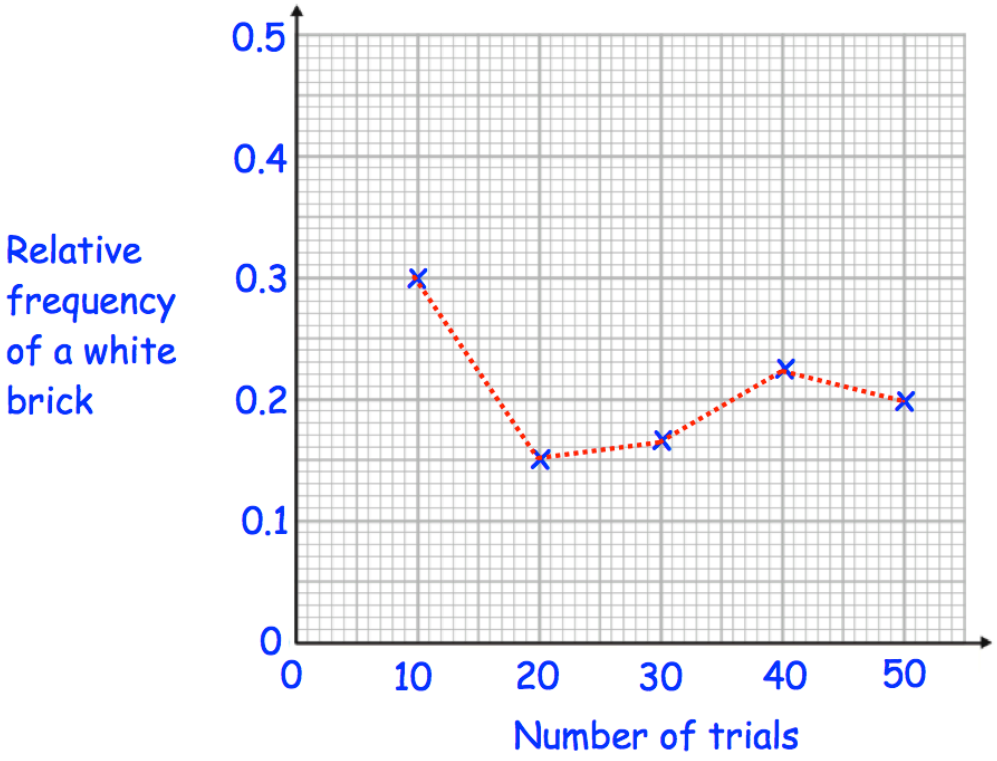
(c) Find the probability of scoring an odd number

.....

(1)

© CORBETTMATHS 2022

28. James has a box containing 4000 lego bricks.
He wants to know the probability of picking a white lego brick.
James picks a brick at random and replaces the bricks in the box.
He does this 50 times and calculates the relative frequency of a white after every 10 trials.



(a) Use the graph to calculate the number of times James chose a white brick in the first 10 trials.

.....

(2)

(b) What is the best estimate of the probability of choosing a white brick?
Explain your answer.

.....

.....

.....

(2)

© CORBETTMATHS 2022

29. The temperature, in °C, at midnight at a weather station on 5 days was recorded.

Day	Monday	Tuesday	Wednesday	Thursday	Friday
Temperature	-6	3	-4	1	-4

What is the mean of the temperatures recorded?

.....

(2)

---

30. 5 Year 10 students and 45 Year 11 students sit a test.

The mean mark for the whole group is 70
The mean mark for the Year 11 students is 72

Work out the mean mark for the Year 10 students.

.....

(3)

© CORBETTMATHS 2022

31. The table below shows the mass of some mini-cupcakes, in grams.

Mass	Frequency
$20 < m \leq 25$	12
$25 < m \leq 30$	24
$30 < m \leq 35$	17
$35 < m \leq 40$	15
$40 < m \leq 45$	4

Calculate an estimate of the mean mass of the mini-cupcakes.

.....g

(4)

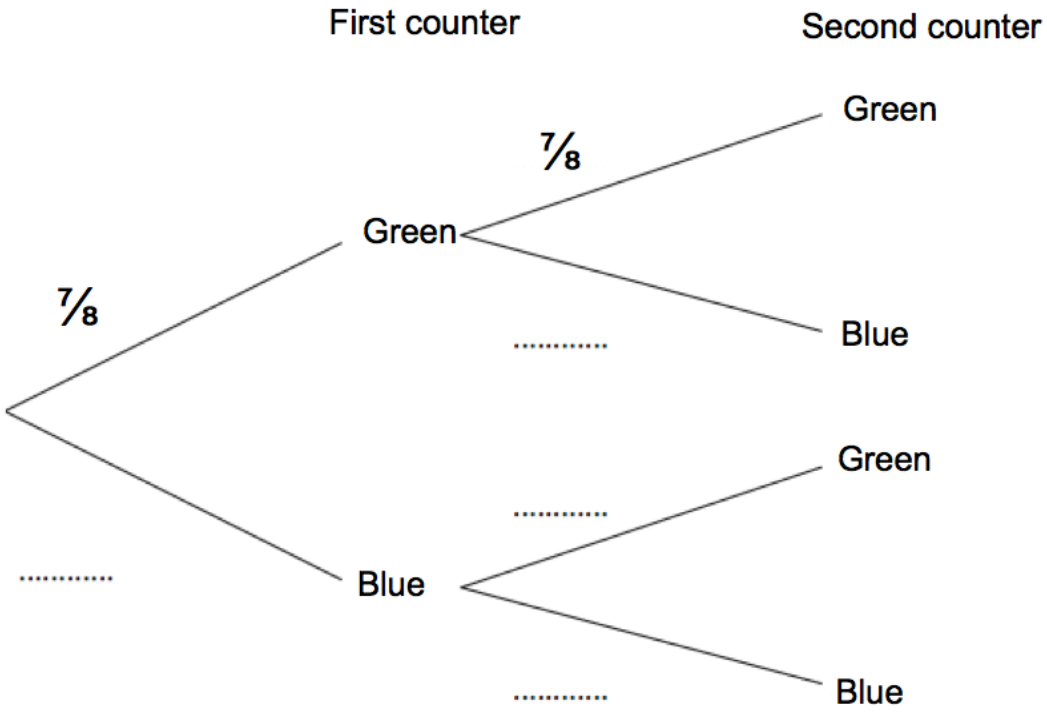
© CORBETTMATHS 2022

32. There are green and blue counters in a container.

Kevin takes at random a counter from the container.
He replaces the counter in the container.

Kevin takes at random a second counter from the container.

(a) Complete the probability tree diagram.



(2)

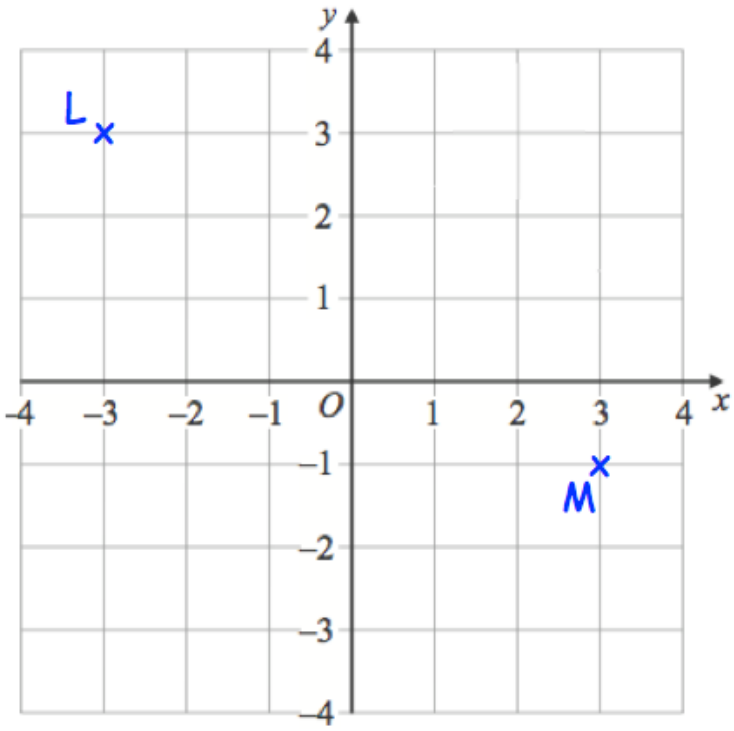
(b) Work out the probability that Kevin picks counters that are different colour.

.....

(2)

© CORBETTMATHS 2022

33.



(a) Write down the coordinates of L.

(..... , ...)

(1)

(b) Write down the coordinates of M.

(..... , ...)

(1)

(c) Find the coordinates of the midpoint of LM.

(..... , ...)

(2)

© CORBETTMATHS 2022

34. (a) Simplify $8a + 3c - 5c + 3a$

.....

(2)

(b) Simplify $3a + 2w - 5a - 9w$

.....

(2)

(c) Simplify $3y^2 + 2w^2 + y^2 - w^2$

.....

(2)

---

35. Simplify

(a) $a \times a \times a$

.....

(1)

(b) $3 \times a \times c$

.....

(1)

(c) $w \times 5 \times e$

.....

(1)

(d) $2y \times y$

.....

(1)

(e) $3a \times 4c$

.....

(1)

© CORBETTMATHS 2022

36. Expand and simplify (w – 8)(w + 7)

.....

(2)

---

37. (a) Factorise $21 - 7a$

.....

(1)

(b) Factorise fully $6x^2 + 9x$

.....

(2)

---

38. Factorise $x^2 + 4x - 12$

.....

(2)

© CORBETTMATHS 2022

39. Solve

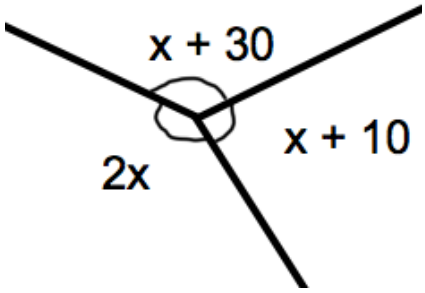
$$\frac{w + 3}{4} = 6$$

w = ...

(2)

---

40. Three angles meet at a point.



Calculate the size of the largest angle.

.....°

(4)

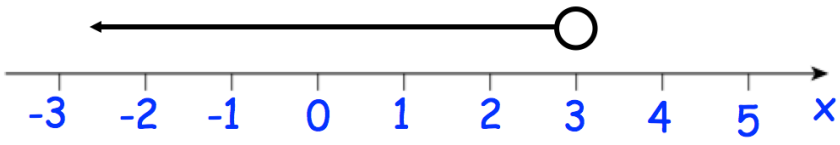
© CORBETTMATHS 2022

41. (a) Solve the inequality $3(x - 4) \leq 15$

.....

(2)

(b) Write down the inequality shown by the diagram.

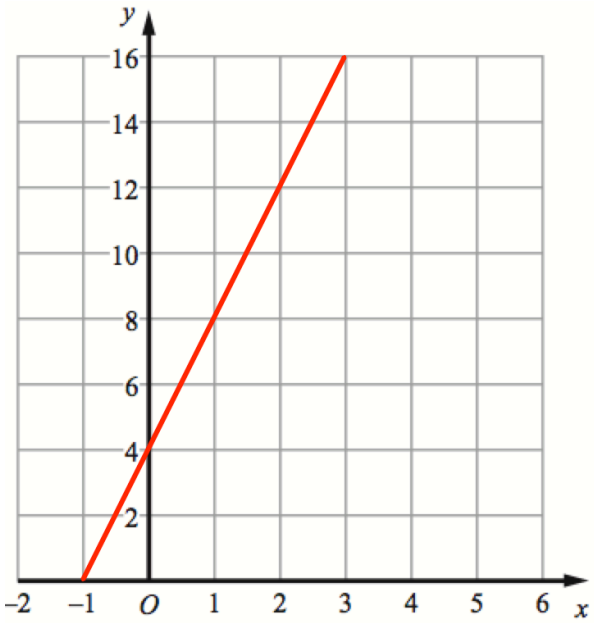


.....

(2)

---

42. A straight line L is shown on the grid.



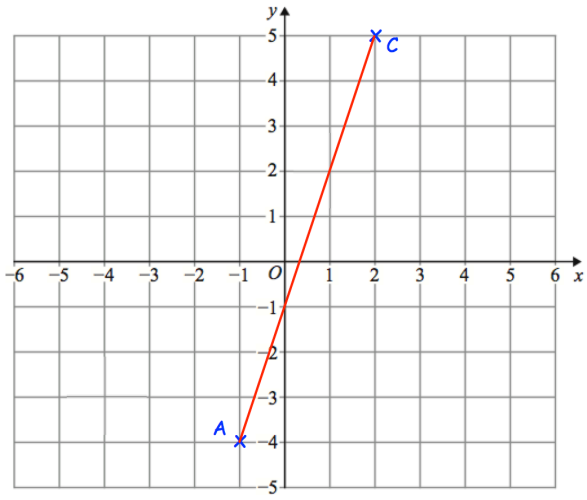
Work out the equation of line L

.....

(3)

© CORBETTMATHS 2022

43.



A is the point with coordinates (–1, –4)
C is the point with coordinates (2, 5)

Find the gradient of the line AC.

.....

(2)

© CORBETTMATHS 2022